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1 YORUBA PREDICATE CLEFTS

In Yoruba, a language of the Kwa group spoken in Nigeria, both noun phrases (1a) and predicates (1b,c) can be clefted. In a Yoruba cleft, the focused element appears first followed by the copula *ni*. In a predicate cleft, the focused predicate, a verb or a verb object complex, appears in gerundive form.

(1)a. Èmi ni Tolú fún ní ìgbá.
me NI Tolu give case calabash
'It is me that Tolu gave a calabash to.'

b. Fífún ni Tolú fún mi ní ìgbá.
giving NI Tolu gave me case calabash
'Tolu GAVE me the calabash.'

c. Fífún mi ni Tolú fún mi ní ìgbá.
giving me NI Tolu give me case calabash
'Tolu GAVE ME the calabash.'

As Koopman (1984) points out, predicate clefts exhibit Wh-Movement properties. They respect the Complex NP Constraint (2a) and Subject and Adjunct Islands (2b,c).

(2)a. *Sísè ni mo mọ obìnrin tí ó se oñjẹ.
cooking NI I know a woman that she cooks food
'I know a woman who COOKED the food.'

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b. *Sísè àti se oñję yìí wù mí.
cooking to cook food this pleases me
'It pleases me to COOK this food.'

c. *Kíkí ni Tolú wọlé kí ó tó kí mi.
greeting NI Tolu enter-house before greet me
'Tolu entered before he GREETED me.'

In accordance with the behavior of Wh-Movement constructions, so-called bridge verbs allow the long extraction of predicates (2d).

(2)d. Mímu ni Tundé rò pé Olú mu ọtí.
drinking NI Tunde thinks that Olu drink liquor
'Tunde thinks that Olu DRANK the liquor.'

2 AN XP MOVEMENT ANALYSIS

Past researchers, following Koopman (1984), have assumed the existence of a putative type of X^o movement with Wh-Movement properties. The present work investigates instead the possibility that predicate clefts have a structure covertly similar to that of English it-clefts discussed in Chomsky (1974). Chomsky proposes that clefts exhibit the structure in (3a) in which the focused element is base-generated as a complement to the copula and linked to a gap in the coda clause by the rule of Wh-Movement.

(3)a. It is XP [Op....t...]

I propose here that (3a) constitutes the cross-linguistic structure of clefts, so that Yoruba clefts have the structure in (3b).

(3)b. XP ni [Op....t...]

Specifically, I propose that predicate clefts involve the XP movement of a covert VP operator. A base-generated gerund identifies this operator by co-indexation under predication. Predicate clefts involve a covert VP-gap, under this proposal.

Chomsky (1977) argues in his discussion of Wh-Movement constructions that the rule of Wh-Movement requires the presence of a gap, a silent category, which can be implicated in their interpretation. The absence of a gap in the PF string constitutes an apparent problem for the proposal presented here. Under my proposal, the operator-variable

construction is the product of modular interactions: (i) V^o to I^o movement, (ii) adjunction to VP of internal arguments for Case theoretic reasons and (iii) the existence of a gerund compatible with the VP-gap. The covert movement of the VP operator proceeds as follows. After the raising of the verb to Infl and of its arguments, the now 'emptied' VP is lexically governed by Infl and can therefore undergo XP movement to SpecCP, in precise parallelism to the null operator movement in the standard analysis of clefts (4). In the PF string no gap is detectable since the verb appears twice, base-generated in focus position and in Infl after raising.

(4) $[_{V'}[_{VP}$ríràni$][_{Vo}$ni$][_{CP}[_{VP}$...$]$ $[_{IP}$ Olú$[_{Io}$ra$][_{VP}$bàtà t_{VP}]]]
buying NI Olu bought shoes
'Olu BOUGHT shoes'

The structure in (4) is bi-clausal. The verb of the matrix clause is the copula *ni*. The copula takes a base-generated gerund and a clause complement in which the movement of a VP shell to SpecCP has taken place for the purpose of interpretation. The VP operator itself contains the traces of arguments and of the verb.

There are strong motivations for the analysis of predicate clefts presented here. Not only is there evidence in support of the movement of verb and objects, but significant syntactic properties of predicate clefts follow directly from this analysis.

2.1 On V^o to I^o movement in Yoruba

As Emonds (1976) and Pollock (1988) have shown, a class of adverbs appearing both preverbally and postverbally in languages not exhibiting V^o to I^o movement is barred from the preverbal position in languages that exhibit V^o to I^o movement. This is shown in the contrast between (5) and (6).

(5)a. He willingly bought the food.
b. He bought the food willingly.

(6)a. *Il volontairement acheta la nourriture.
he willingly bought the food
'He willingly bought the food.'

b. Il acheta volontairement la nourriture.
He bought willingly the food

In Yoruba, as in French, the adverbs of this class may not appear preverbally, as (7a-d) shows. This argues that the verb has raised past them (7a-d).

(7)a. *Wọ́n gidigidi dúpẹ́ l' ọ́wọ́ mi.
they really thanked at hand my
'They really thanked me.'

b. Wọ́n dúpẹ́ gidigidi l' ọ́wọ́ mi.
they thank really at hand me

c. *Ó tọ̀wọ̀tọ̀wọ̀ dúró l'áti kí mi.
he respectfully waited to greet me
'He respecfully waited to greet me.'

d. Ó dúró tọ̀wọ̀tọ̀wọ̀ l'áti kí mi.
he waited respectfully to greet me

These facts could potentially be derived by an ad-hoc statement in Yoruba grammar preventing adverbs from appearing preverbally, or by the cross-linguistically well-documented process of verb movement. This analysis is clearly preferable.

2.2 Case Theory and the placement of objects

Yoruba unlike French does not admit of adverbs between a verb and its direct object. The contrast between the two languages is given in (8a,b).

(8)a. *Ó ra tífẹ́tífẹ́ oǹjẹ yìí.
he bought wholeheartedly food the
'He wholeheartedly bought the food.'

b. Il acheta de tout coeur la nourriture.
he bought of all heart the food
'He wholeheartedly bought the food.'

This particular behavior of objects finds an independently motivated explanation under Case Theory parametrization. Koopman (1987) proposes for Bambara a parameter on the existence of Case Chains which Chomsky (1988) reduces to the Case assigning properties of verb traces. Yoruba exhibits the behavior of a [-CC] language like Bambara. In a [-CC] language, arguments may not be Case-marked in their in situ positions. They must obligatory raise in order to pass the Case filter. Thus one cannot say "*It is*

raining," or "*There is a book on the table,*" but rather "*Rain is pouring,*" and "*A book is on the table,*" as (9a,b) show.

(9)a. Òjò ń rọ̀.
rain Asp pour
'It is raining.'

(9)b. Ìwé wà l' óri tábìlì
book be at head table
'There is a book on the table.'

This Case parametrization together with the verb movement to Infl jointly explains the distribution of adverbs; the verb having raised to Infl, objects will necessarily raise past the position of attachment of adverbs to an adjoined position strictly adjacent to the verb from which it receives Case.

The licensing of parasitic gaps provides evidence that Yoruba objects are in A-bar adjoined position. Yoruba objects, unlike English ones, are able to license parasitic gaps in postverbal position (10a,b). It is important to note that unlike Chinese (cf. Huang 1989), Yoruba is not a pro-drop language, nor does it allow null topic bound variables as shown in (10c).

(10)a. Mo se iṣu$_i$ [Op$_i$ l'áì dín <e$_i$>]
I cook yams without fry
'I cooked yams without frying *(them).'

b. Tundé ra ìlù$_i$ [Op$_i$ l'áì lù <e$_i$>]
Tunde bought drum without beat
'Tunde bought a drum without playing *(it).'

c. *Tolú sọ pé Ajé rí <pro>
Tolu said that Aje saw
'Tolu said that Aje saw him'

These facts find a simple explanation under the Case theoretic account. This account claims that Yoruba objects are in adjoined position since they cannot be Case-marked in situ. Hence, Yoruba objects license parasitic gaps in the same way that in English objects moved under heavy NP shift do (11).

(11) John offended by not recognizing <e> his favorite uncle from Cleveland

The account proposed here is thus able to provide a unitary explanation for these discrepant surface level facts. The syntactic mechanisms necessary to allow the covert movement of a VP operator to SpecCP

provided by Universal Grammar have now found independent motivation in Yoruba.

3 PREDICTIONS

3.1 The adjunct-like status of predicate clefts

This analysis accounts for the adjunct-like behavior of predicate extractions over weak islands also observed in Koopman (1984). The extraction of a predicate over a factive complement in (12a) is ungrammatical when the extraction of an object (12b) is not. The extraction of the predicate is comparable to that of the adjunct in (12c).

(12)a. *Rírà ni mo gbàgbé l'áti ra iṣu.
buy NI I forgot to buy yams
'What I forgot to do with the yams is buy.'

b. Iṣu ni mo gbàgbé l'áti rà.
yams NI I forgot to buy
'It is yams that I forgot to buy.'

c. *Bawo ni o ṣe gbàgbé l'áti ra iṣu?
how NI you do forget to buy yams
'*How did you forget to buy yams?'

The ECP accounts for the adjunct-like behavior of the verb phrase extraction. Theories of proper government do not require a trace in a theta-marked position to be antecedent governed. In a predicate cleft, the verb phrase extraction to SpecCP is made available by the raising of the verb which lexicalizes Infl. A VP, unlike an argument, does not bear a theta role so that its trace requires antecedent government. Object traces, however, are theta-marked and do not require antecedent government.

3.2 Adjuncts in predicate clefts

Since this analysis claims that the verb in focus position is a base-generated gerund, we would expect that adjuncts can appear independently in the gerund. This is indeed the case as (13a,b) show.

(13)a. Lílọ kíàkíà ni mo lọ sílé.
going quickly NI I went home
'What I did is go home fast.'

b. Sísɔ̀rɔ̀ sókèsókè ni wǫ́n sɔ̀rɔ̀.
speaking loudly NI they spoke
'What they did is speak loudly.'

This analysis also limits the conditions under which adverbs may occur in predicate clefts. As noted earlier, adverbs must be antecedent governed. This means that an adverb trace may not be contained in the extended verbal projection which undergoes movement to SpecCP since this trace will not be C-commanded by its antecedent. Thus the co-ocurrence of adverbs in the focused verb phrase and in the coda clause, which requires for purposes of interpretation the presence of an adverb trace in the VP operator, is ungrammatical as (14a,b) shows.

(14)a. *Lílǫ kíàkíà ni mo lǫ sílé kíàkíà.
going quickly NI I went home quickly
'What I did quickly is go home quickly.'

b. *Sísɔ̀rɔ̀ sokèsókè ni wǫ́n sɔ̀rɔ̀ sókèsókè.
speaking loudly NI they spoke loudly
'What they did loudly is speak loudly.'

However, the analysis predicts that adverbs with different levels of attachment will interact interestingly with predicate clefts. Thus a VP level adverb in the coda clause allows the clefting of the predicate since a node below the attachment may raise to SpecCP without engendering a violation of the ECP (15a). However, the presence of a lower V' level adverb in the coda clause bars predicate clefting from occurring since no VP projection excluding the adjunct trace is available for clefting (15b). The extraction necessarily results in an ECP violation.

(15)a. Lílǫ ni mo lǫ sílé kíàkíà.
going NI I went home quickly
'What I did quickly is go home.'

b. *Sísɔ̀rɔ̀ ni wǫ́n sɔ̀rɔ̀ sókèsókè.
speak NI they speak loudly
'What they did loudly is speak.'

3.3 Evidence for a bi-clausal structure

There is also evidence for the gerundive status of the verb or verb object complex in focus position and for the treatment of *ni* as a copula.

The same form of the verb found in predicate clefts can also occur as an argument (16a).

(16)a. Jíjẹ àádún sú mi.
eating sweets bores me
'Eating sweets bores me.'

There are limited environments in which the gerund may occur without an overt object in the same way that an infinitival clause can as shown in (17a,b).

(17)a. Ṣé o ní nǹkan Op_i jíjẹ $<t_i>$?
Q you have something eating
'Do you have something to eat?'

b. Ṣé o ní nǹkan Op_i l'áti jẹ $<t_i>$?
Q you have something to eat
'Do you have something to eat?'

Ni has the distributional properties of a verb. It can be preceded by negation (18a) and by sentence level adjuncts (18b). These facts present a strong argument for the bi-clausal nature of Yoruba clefts.

(18)a. Èmi kọ́ ni ó lọ.
me not NI he went
'It is not me who went.'

b. Bóyá, Adé ni ó wọlé.
perhaps Ade NI he enter-house
'It is perhaps Ade who entered.'

3.4 Elements participating in predicate clefts

This analysis also predicts which elements can participate in predicate clefts. Inflectional elements (19a,b) are predicted not to participate in predicate clefts since predicate clefts implicate the movement of a verb phrase projection. Preverbs, which are aspectual, modals, and negation have often been observed to be ambiguous between the inflectional and verbal paradigms. These elements may or may not participate in predicate clefts. I give in (20a,b) an example with the preverb *tètè* 'quickly.'

(19)a. *Mímáa lọ ni mo máa lọ sójà.
Asp go NI I Asp go to market
'I USUALLY go to market.'

b. *Títi lọ ni mo ti lọ sójà.
Asp go NI I Asp go to market
'I ALREADY went to market.'

(20)a. Títètèlọ ni Tolú tètè lọ sójà.
quickly go NI Tolu quickly go to market
'What Tolu did is go quickly to market.'

b. Lílọ ni Tolú tètè lọ sójà.
going NI Tolu quickly go to market
'What Tolu quickly did is go to market.'

4 A DERIVED VP OPERATOR

I have argued that Universal Grammar, through verb movement and Case theoretic parametrization, allows for the existence of a derived VP operator. As this is a new variety of operators, I now present independent evidence showing that the internal structure of this operator is consistent with requirements of proper government. There is clear evidence that the in situ trace of an argument may be contained in a VP raised to SpecCP. For internal arguments, this is shown by preposing an unaccusative verb (21a). For external arguments, Huang (1990) argues that VP preposing reconstruction effects are due to the presence of a subject trace in VP internal subject position binding the anaphor in object position (21b). Hence it is a Complete Functional Complex containing the subject trace which raises both in VP preposing and in predicate clefts.

(21)a. [Die t_i]$_j$ we all$_i$ will t_j
b. [t_i Criticize himself$_i$]$_j$ John said Peter$_i$ did t_j

There is independent evidence to show that traces of arguments can indeed be present in a VP which has raised to SpecCP. There is also ample evidence that not only XP traces but also X^o traces can escape the scope of their antecedents. For instance, it is possible to cliticize the head of an object NP, and then move under A or A-bar movement the NP remnant as in (22a,b).

(22)a. Combien de kilos dites vous que vous en$_i$ avez acheté?
how many kilos say you that you of-it have bought
'How many kilos of it did you say you bought?'

b. [Une photo t_i]$_j$ en$_i$ fut prise t_j.
a picture of-it was taken
'A picture of it was taken.'

Not only is this possible in the case of clitics, but more importantly our analysis predicts that in French the verb should be able to raise to tense allowing the VP-remnant to be topicalized, in parallelism with Yoruba predicate clefts. This is indeed possible as shown in (23a).

(23)a. Il insista qu'elle énoncerait sa tirade soigneusement
'*He insisted that she would recite her part carefully

et [t_v sa tirade soigneusement]$_i$ elle énonca$_v$ t_i.
and [t_v her part carefully]$_i$ she recited$_v$ t_i.'

According to Cullicover and Rochemont (1990) the same type of VP adjunction to IP is also available in English for a small class of Stylistic Inversion verbs (23b).

(23)b. [t_v into the room nude]$_{VP}$ walked John t_{VP}.

To sum up, the process whereby a derivational operator, as opposed to a base-generated empty operator, is made available to Yoruba grammar has been shown to follow directly from verb movement and Case parametrization, independently attested phenomena in natural language.

5 RESTRICTIONS BY PREDICATE TYPES

Larson and Lefèbvre (1991) claim that individual level predicates do not cleft based on data like (24a,b). Predicate clefts consist of quantification over events in this view. Individual level predicates involve no events. Therefore they may not cleft (24a,b).

(24)a. *Se konne Jan konne lang sa.
it-is know John knows language his
'It is know this language that John did (not speak).'

b. *Se intelijan jan intelijan.
it-is intelligent John intelligent
'It is intelligent that John is (not polite).'

This constitutes too strong a condition since descriptions including color predicates can be clefted contrastively (25a-c). This fact holds not only of Yoruba but also of Waci.

(25)a. Sísanra ni Tolú sanra, kò ga.
being fat NI Tolu is fat, not tall
'Tolu is FAT, not tall.'

b. Dídára ni Tolú dára
being nice NI Tolu is nice
'It is nice that Tolu is.'

c. Dúdú ni o dúdú, kò pupa
being black NI black, not red
'It is black, not red.'

As the Waci example in (26) shows, a predicate cleft is a possible answer to the question, "*What is Kojo like?*" highlighting the fact that these predicates have not shifted from the individual to the stage level.

(26)a. Léké Kojo le?
how Kojo is
'What is Kojo like?'

b. Ci yé Kojo ci
tall YE Kojo tall
'Kojo is TALL.'

To claim that only event predicates can cleft is clearly incorrect, rather the class of predicates that do not cleft is narrower: individual level predicates with experiencer subjects (27a-c).

(27)a. *Mímọ̀ ni mo mọ èdè Yorùbá.
knowing NI I know language Yoruba
'I KNOW the Yoruba language.'

b. *Rírò ni Tolú rò pé mi ò mọ àṣà àwọn Yorùbá.
thinking NI Tolu think that I not know customs Yoruba
'Tolu THINKS I don't know Yoruba customs.'

c. *Fífẹ́ ni Tolú fẹ́ẹ́ lọ sí Ìlọrin.
want NI Tolu wants go to Ilorin
'Tolu WANTS to go to Ilorin.'

Event predicates with experiencer subjects cleft (28a) and predicates with experiencer objects cleft (28b).

(28)a. Rírí ni Tolú rí kìnìún.
seeing NI Tolu saw lion
'Tolu SAW a lion.'

b. Wíwù ni iṣẹ́ yìí wù mí púpọ̀.
pleasing NI work this pleases me a lot
'This work PLEASES me a lot.'

Individual level predicates with experiencer subjects are not the only class of predicates that may not cleft. The tough predicate in a tough movement construction is also barred from occurring in a predicate cleft as (29a,b) shows.

(29)a. *Ṣíṣoro ni okò ojú irin ṣoro l'áti bá.
difficult NI train difficult to catch
'The train is DIFFICULT to catch.'

b. *Rírò ni iṣẹ́ yìí rò fún mi l'áti ṣe
easy NI work this give me to do
'This work is EASY for me to do.'

These two classes do not unify well under Theta Theory since the subject in a tough movement construction is not an experiencer. However, the two classes have in common that they have derived subjects.

5.1 Intermediate traces and predicate extractions

I claim that the restrictions on predicate clefts are strictly structural. The ECP, as requirement on recoverability of empty categories, can be met locally by virtu of some structural dependency or by antecedent government. Hence VP-internal intermediate traces, if not identified by a strong head (Jaeggli 1981) will not be locally recoverable. These traces therefore must be antecedent governed. Hence, similarly to traces of adjuncts, argument traces that are not structurally identified cannot be present in a VP which has been raised to SpecCP.

I assume here that the extended structure of the verb phrase consists of an inner VP and an outer projection (the Pr(edicate) Phrase in Bowers (1990). This phrase saturates the theta grid of the predicate. Grimshaw (1989) argues for a bi-partite representation of event structure as activity and state where the activity is more prominent. It seems natural to map this structural prominence relation onto the extended projection of the predicate where its 'event structure' is presumably encoded. Hence, the higher projection of a state like *'want'* will be inert, while that of a predicate like *'arrive'* will be semantically active.

Derived subjects raise successively to sentential subject position in SpecIP through the inner subject position in SpecPrP. In the case of an event predicate, the intermediate trace of the derived subject in inner subject position is identified by its head. In the case of a state, the intermediate trace in SpecPrP is not identified by the head. Consider the derivation of a tough movement construction as in (30).

(30) $[_{IP}$ Yorùbá$_i$ $[_{PrP}$ t$_i$ dún $[_{CP}$ Op$_i$ [PRO ún sọ t$_i$]]
Yoruba pleasant to speak
'Yoruba is pleasant to speak.'

The interpretation of the tough movement requires that a there be a trace in the internal subject position where the predication relation with the operator may obtain. By the Theta Criterion it also follows that this trace is not in a theta position. *Pleasant* is a stative predicate so that this intermediate trace in SpecPrP is not locally identified by a thematic or a Spec-head dependency. Hence this trace requires antecedent government. The movement of the predicate phrase severs this antecedent government since the trace is no longer C-commanded by its antecedent so that ungrammaticality results.

This account makes a prediction. It claims that descriptions; e.g. predicates such as *fat, tall, red,* etc. have a different structure from states. They have a structure in which SpecPrP is structurally identified, presumably a theta position. This is because these predicates, though they are not eventive, participate in predicate clefts.

There is cross-linguistic evidence that this claim is correct. It is generally known that *there*-insertion is sensitive to restrictions by predicate types. These are largely assumed to follow from the semantic nature of predicates. I present evidence here that *there*-insertion is structurally conditioned. French allows a wider range of predicates in *there*-insertion. In particular it allows predicates such as *arriver* 'arrive' and *tomber,* 'fall.'

(31)a. Il y a trois trains d' arrivés.
there are three trains of arrived
'Three trains have arrived.'

b. Il y a trois mètres de neige de tombés.
there are three meters of snow of fallen
'Three meters of snow have fallen.'

Under the small clause analysis, it follows from the participation of unaccusatives that *there*-insertion implicates a non-theta A position in inner subject position. If one considers the behavior of states versus descriptions with respect to *there*-insertion and predicate clefting, the two types appear diametrically opposed:

States participate in *there*-insertion (32a) but not in predicate clefting (27), while descriptions participate in predicate clefts (25), but not in *there*-insertion (32b).

(32)a. Il y a trois hommes d' aimés
there are three men of loved
'There are three men loved.'

b. Il y a trois hommes de *gros/ de *minces/ de *rouges
there are three men of fat/ of slim/ of red
'Three men are fat/ slim/ red.'

Given that *there*-insertion requires that an argument be in a non-thematic position, it follows that descriptions may not participate in *there*-insertion. However, our analysis also predicts that when a non-theta A-position is made available, then descriptions participate in *there*-insertion. This is precisely what happens under cliticization, as (33) demonstrates.

(33) Il y en a trois de gros/ de minces/ de rouges.
there of-them are three of big/ of slim/ of red
'Three of them are big/ slim/ red.'

Furthermore, the claim that the inner subject position of descriptions is a theta position predicts extraction asymmetries between states and descriptions since one extraction requires antecedent government, while the other does not. Both descriptions and states can be questioned as (34a,b) show.

(34)a. Qui$_i$ il y avait-il t_i de gros dans cette photo?
who$_i$ was there t_i of big in this picture
'Who was big in this family picture?'

b. Qui$_i$ est-ce qu'il y a t_i d'apprécié?
who$_i$ is it that there is t_i of appreciated
'Who is appreciated.'

The prediction is borne out. Across a negative island, the extraction out of the inner subject position of a description is licensed, while that out of the inner subject position of a state predicate is ungrammatical (35a,b).

(35)a. Qui$_i$ a-t-elle nié qu'il y avait t_i de gros?
who did she deny that there was of big
'Who did she deny was big in this picture?'

b. *Qui$_i$ a-t-elle nié qu'il y avait t_i d'apprécié?
who did she deny that there was of appreciated
'Who did she deny was appreciated?'

The distribution of predicates with respect to there-insertion context and predicate cleft constructions are unified by a structural account.

6 CONCLUSION

Predicate clefts have been shown to have covertly the structure of standard it-clefts, a structure from which their interpretation is derived. Predicate clefts implicate the covert movement of a derived verb phrase operator. Significant properties of predicate clefts follow from this analysis including the nominal status of the focused verb, the distribution of negation, adverbials, the class of cleftable elements, the adjunct status of predicate extractions. This XP movement analysis explains restrictions on predicate clefts by predicate types in terms of the identification of empty categories. These restrictions are shown to have cross-linguistic implications, as is expected from this approach.

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